

Documented Code For `mfirstuc` v2.03

Nicola L.C. Talbot

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1 Introduction

This is the documented code for the `mfirstuc` package. See `mfirstuc-manual.pdf` for the main user guide.

2 Main Package Code

2.1 Mfirstuc Documented Code

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{mfirstuc}[2016/07/29 v2.03 (NLCT)]
```

Requires `etoolbox`:

```
3 \RequirePackage{etoolbox}
```

\makefirstuc

Syntax:

```
\makefirstuc{\text{}}
```

Makes the first letter uppercase, but will skip initial control sequences if they are followed by a group and make the first thing in the group uppercase, unless the group is empty. Thus `\makefirstuc{abc}` will produce: `Abc`, `\makefirstuc{\ae bc}` will produce: `Æbc`, but `\makefirstuc{\emph{abc}}` will produce `Abc`. This is required by `\Gls` and `\Glspl`.

```

4 \newif\if@glscs
5 \newtoks@\glsmfirst
6 \newtoks@\glsmrest
7 \newrobustcmd*\makefirstuc}[1]{%

```

Check if argument starts with `\protect` which needs to be skipped.

```

8   \OMFU@p@makefirstuc#1\relax\relax\relax\end@MFU@protected{#1}%
9 }

```

`\OMFU@protect`

```
10 \newcommand*\OMFU@protect}{\protect}
```

`U@p@makefirstuc`

Internal command to do the required action.

```
11 \def\OMFU@p@makefirstuc#1#2#3\end@MFU@protected#4{%
```

Test if the first argument is `\protect`.

```

12 \def\gls@argi{#1}%
13 \ifx\gls@argi\OMFU@protect
14   \OMakefirstuc{#2#3}%
15 \else
16   \OMakefirstuc{#4}%
17 \fi
18 }

```

`\OMakefirstuc`

Internal command to do the required action.

```

19 \newcommand*\OMakefirstuc}[1]{%
20   \def\gls@argi{#1}%
21   \ifx\gls@argi\empty

```

If the argument is empty, do nothing.

```

22 \else
23   \def\@glscs@tmp{\ #1}%
24   \Onelevel@sanitize\@glscs@tmp
25   \expandafter\gls@checkcs\@glscs@tmp\relax\relax
26   \if@glscs

```

Check if we have two sequential control sequences.

```

27   \expandafter\def\expandafter\gls@tmp\expandafter{\expandafter
28     \ \ @gobble #1}%
29   \Onelevel@sanitize\@glscs@tmp
30   \expandafter\gls@checkcs\@glscs@tmp\relax\relax
31   \if@glscs\@glscsfalse\else\@glscstrue\fi
32   \fi
33   \if@glscs
34     \gls@getbody #1{}\@nil

```

```

35      \ifx\@gls@rest\@empty
36          \glsmakefirstuc{#1}%
37      \else
38          \expandafter\@gls@split\@gls@rest\@nil
39          \ifx\@gls@first\@empty
40              \glsmakefirstuc{#1}%
41          \else
42              \expandafter\@glsmfirst\expandafter{\@gls@first}%
43              \expandafter\@glsmrest\expandafter{\@gls@rest}%
44              \edef\@gls@domfirstuc{\noexpand\gls@body
45                  {\noexpand\glsmakefirstuc\the\@glsmfirst}%
46                  \the\@glsmrest}%
47              \gls@domfirstuc
48          \fi
49      \fi
50  \else
51      \glsmakefirstuc{#1}%
52  \fi
53 \fi
54 }

```

\@gls@split Put first argument in \@gls@first and second argument in \@gls@rest:

```

55 \ifdef\dtl@getfirst@UTFviii
56 {%
57     \def\@gls@split#1#2\@nil{%
58         \ifbool{@dtl@utf8}{%
59             {%
60                 \expandafter\dtl@if@two@octets#1#2\relax\dtl@end@if@two@octets
61             {%
62                 \dtl@getfirst@UTFviii#1#2\@nil\end@dtl@getfirst@UTFviii
63                 \let\@gls@first\dtl@first
64                 \let\@gls@rest\dtl@rest
65             }%
66             {%
67                 \def\@gls@first{#1}\def\@gls@rest{#2}%
68             }%
69         }%
70     }%
71 }%
72 {%
73     \def\@gls@split#1#2\@nil{%
74         \def\@gls@first{#1}\def\@gls@rest{#2}%
75     }%
76 }

77 \def\@gls@checkcs#1 #2#3\relax{%
78     \def\@gls@argi{#1}\def\@gls@argii{#2}%
79     \ifx\@gls@argi\@gls@argii
80         \glsctrue
81     \else

```

```

82     \glscsfalse
83 \fi
84 }

```

Has datatool-base v2.24 (or above) been loaded? If so and we have UTF-8 enabled, we can grab the first octet.

fu@applytofirst

```

85 \ifdef\dtl@getfirst@UTFviii
86 {%
87   \def\@mfu@applytofirst#1#2\@mfu@end\applytofirst#3{%
88     \expandafter\dtl@if@two@octets#1#2\relax\dtl@end\if@two@octets
89     {%
90       \dtl@getfirst@UTFviii#1#2\@nil\end@dtl@getfirst@UTFviii
91       \expandafter#3\expandafter{\dtl@first}\dtl@rest
92     }%
93     {%
94       #3#1#2%
95     }%
96   }%
97 }%
98 {%
99   \def\@mfu@applytofirst#1#2\@mfu@end\applytofirst#3{#3#1#2}
100 }

```

\MFUapplytofirst \MFUapplytofirst{\cs}{\text}

Apply *cs* to first token of text, or first UTF-8 character if datatool-base v2.24 above has been loaded with the utf8 support enabled.

```

101 \ifdef\dtl@getfirst@UTFviii
102 {%
103   \newcommand*\MFUapplytofirst[2]{%
104     \ifbool{@dtl@utf8}{%
105       {%
106         \ifblank{#2}{%
107           {#1{#2}}%
108         {%
109           \ifblank{#1}{%
110             {#1#2}%
111             {%
112               \@mfu@applytofirst#2\@mfu@end\applytofirst#1\relax
113             }%
114           }%
115         }%
116       {%
117         #1#2%
118       }%
119     }%

```

```

120 }%
121 {%
122   \newcommand*{\MFUapplytofirst}[2]{#1#2}
123 }

gls@makefirstuc Make first thing upper case:
124 \def\@gls@makefirstuc#1{\MFUapplytofirst\mfirstucMakeUppercase{#1}}


ucMakeUppercase Allow user to replace \MakeUppercase with another case changing command.
125 \newcommand*{\mfistucMakeUppercase}{\MakeUppercase}

\glsmakefirstuc Provide a user command to make it easier to customise.
126 \newcommand*{\glsmakefirstuc}[1]{\@gls@makefirstuc{#1}}


Get the first grouped argument and store in \@gls@body.
127 \def\@gls@getbody#1{\def\@gls@body{#1}\@gls@gobbletonil}

Scoup up everything to \@nil and store in \@gls@rest:
128 \def\@gls@gobbletonil#1@nil{\def\@gls@rest{#1}}


\xmakefirstuc Expand argument once before applying \makefirstuc (added v1.01).
129 \newcommand*{\xmakefirstuc}[1]{%
130   \expandafter\makefirstuc\expandafter{#1}%
131 }

\emakefirstuc Fully expand argument before applying \makefirstuc
132 \newrobustcmd*{\emakefirstuc}[1]{%
133   \protected@edef\@MFU@caparg{#1}%
134   \expandafter\makefirstuc\expandafter{\@MFU@caparg}%
135 }

capitalisewords Capitalise each word in the argument. Words are considered to be separated by plain spaces
(i.e. non-breakable spaces won't be considered a word break).
136 \newrobustcmd*{\capitalisewords}[1]{%
137   \let\@mfu@checkword\@gobble
138   \def\gls@add@space{}%
139   \let\@mfu@domakefirstuc\MFUcapword
140   \mfu@capitalisewords#1 \@nil\mfu@endcap
141 }

capitalisewords \@mfu@checkword needs to be set before use.
142 \newcommand*{\@mfu@mid@capitalisewords}[1]{%
143   \def\gls@add@space{}%
144   \let\@mfu@domakefirstuc\MFUcapword
145   \mfu@capitalisewords#1 \@nil\mfu@endcap
146 }

```

```

147 \def\mfu@capitalisewords#1 #2\mfu@endcap{%
148   \def\mfu@cap@first{#1}%
149   \def\mfu@cap@second{#2}%
150   \gls@add@space
151   \cmfu@checkword{#1}%
152   \cmfu@domakefirstuc{#1}%
153   \def\gls@add@space{ }%
154   \ifx\mfu@cap@second\@nnil
155     \let\next@mfu@cap\mfu@noop
156   \else
157     \let\next@mfu@cap\mfu@capitalisewords
158     \let\cmfu@checkword\mfu@checkword
159   \fi
160   \next@mfu@cap#2\mfu@endcap
161 }
162 \def\mfu@noop#1\mfu@endcap{}
```

\ifMFUhyphen Split on hyphens.

```

163 \newif\ifMFUhyphen
164 \MFUhyphenfalse
```

\MFUcapword

```

165 \newcommand*\MFUcapword[1]{%
166   \ifMFUhyphen
167     \@MFUcapword#1-\@nil\@endMFUcapword
168   \else
169     \makefirstuc{#1}%
170   \fi
171 }
```

\@MFUcapword

```

172 \def\@MFUcapword#1-#2\@endMFUcapword{%
173   \makefirstuc{#1}%
174   \def\cmfu@argii{#2}%
175   \ifx\cmfu@argii\@nnil
176   \else
177     -\@MFUcapword#2\@endMFUcapword
178   \fi
179 }
```

\mfu@checkword Check if word should be capitalised. This originally used etoolbox's \ifinlist command but this doesn't work if the word contains grouping.

```

180 \newcommand*\mfu@checkword[1]{%
181   \def\mfu@checkword@arg{#1}%
182   \let\cmfu@domakefirstuc\MFUcapword
183   \forlistloop\mfu@checkword@do\cmfu@nocaplist
184 }
```

```

fu@checkword@do Handler for loop used by \mfu@checkword
185 \newcommand*{\mfu@checkword@do}[1]{%
186   \ifdefstring{\mfu@checkword@arg}{#1}{%
187     {%
188       \let\@mfu@domakefirstuc\@firstofone
189       \listbreak
190     }%
191   }%
192 }

\@mfu@nocaplist List of words that shouldn't be capitalised.
193 \newcommand*{\@mfu@nocaplist}{}{}

\MFUnocap Provide the user with a means to add a word to the list.
194 \newcommand*{\MFUnocap}[1]{\listadd{\@mfu@nocaplist}{#1}{}}

\gMFUnocap Global version.
195 \newcommand*{\gMFUnocap}[1]{\listgadd{\@mfu@nocaplist}{#1}{}}

\MFUclear Clear the list
196 \newcommand*{\MFUclear}{\renewcommand*{\@mfu@nocaplist}{}{}}

capitalisewords Short-cut command:
197 \newcommand*{\xcapitalisewords}[1]{%
198   \expandafter\capitalisewords\expandafter{#1}%
199 }

capitalisewords Fully expand argument before applying \capitalisewords
200 \newrobustcmd*{\ecapitalisewords}[1]{%
201   \protected@edef\@MFU@caparg{#1}%
202   \expandafter\capitalisewords\expandafter{\@MFU@caparg}%
203 }

italisefmtwords Like \capitalisewords but assumes that the phrase contains formatting text-block commands.
204 \newcommand*{\capitalisefmtwords}[1]{%
205   \let\@mfu@checkword\@gobble
206   \def\gls@add@space{}%
207   \capitalisefmtwords#1 \@nil\relax
208 }

italisefmtwords
209 \def\@capitalisefmtwords#1 #2{%
210   \def\gls@argi{#2}%
211   \ifx\gls@argi\@nnil
212     \def\@mfu@capfmtwordsnext{\@capitalise@fmtwords#1\@nil}%
213   \else
214     \def\@mfu@capfmtwordsnext{\@capitalise@fmtwords#1\@nil

```

```

215      \def\gls@add@space{ }%
216      \let\@mfu@checkword\mfu@checkword
217      \@@cap@nofmtphrase#2}%
218  \fi
219  \@mfu@capfmtwordsnext
220 }%


talise@fmtwords
221 \def\@capitalise@fmtwords#1{%
222   \def\gls@argi{#1}%
223   \ifx\gls@argi\@nnil
      Do nothing.
224   \let\@mfu@capfmtwordsnext\relax
225   \else
226     \ifx\gls@argi\@MFU@protect
        Skip \protect
227     \def\@mfu@capfmtwordsnext{\@capitalise@fmtwords}%
228   \else
229     \def\@gls@tmp{\ #1}%
230     \onelevel@sanitize\@gls@tmp
231     \expandafter\@gls@checkcs\@gls@tmp\relax\relax
232     \if@gls
233       \def\@mfu@capfmtwordsnext{\@capitalisefmtwords#1}%
234     \else
235       \ifx\gls@argi\@empty
236         \def\@mfu@capfmtwordsnext{\@capnofmtphrase{} }%
237       \else
238         \def\@mfu@capfmtwordsnext{\@capnofmtphrase#1}%
239       \fi
240     \fi
241   \fi
242 \fi
243 \@mfu@capfmtwordsnext
244 }

italisefmtwords Check for a group following argument.
245 \def\@@capitalisefmtwords#1{%
246   \@ifnextchar\bgroup{\@capfmtphrase#1}{\@capnofmtphrase#1}%
247 }

\@@capfmtphrase
248 \def\@@capfmtphrase#1#2#3{%
249   \def\@gls@tmp{#3}%
250   \ifx\gls@tmp\@nnil
251     \def\@mfu@capfmtwordsnext{#1{\@capitalisefmtwords#2 \@nil}}%
252   \else
253     \def\@mfu@capfmtwordsnext{\@capfmtsubphrase#1{#2}#3}%
254   \fi

```

```

255   \cmfu@capfmtwordsnext
256 }

@capnofmtphrase
257 \def\@capnofmtphrase#1\@nil{%
258   \gls@add@space
259   \cmfu@mid@capitalisewords{#1}%
260   \def\gls@add@space{ }%
261 }

capfmtsubphrase
262 \def\@capfmtsubphrase#1#2#3\@nil{%
263   \gls@add@space
264   #1{\cmfu@mid@capitalisewords{#2}}%
265   \def\gls@add@space{ }%
266   \let\cmfu@checkword\mfp@checkword
267   #3%
268 }

cap@nofmtphrase
269 \def\@cap@nofmtphrase#1 #2\@nil{%
270   \def\gls@arg{#2}%
271   \ifx\gls@arg\empty
272     \capitalisefmtwords#1 \@nil
273   \else
274     \capitalisefmtwords#1 \@nil
275     \def\gls@add@space{ }%
276     \let\cmfu@checkword\mfp@checkword
277     \capitalisefmtwords#2 \@nil
278   \fi
279 }

italisefmtwords Short-cut command:
280 \newcommand*\xcapitalisefmtwords}[1]{%
281   \expandafter\capitalisefmtwords\expandafter{#1}%
282 }

italisefmtwords
283 \newrobustcmd*\ecapitalisefmtwords}[1]{%
284   \protected@edef\@MFU@caparg{#1}%
285   \expandafter\capitalisefmtwords\expandafter{\@MFU@caparg}%
286 }

```

2.2 Mfirstuc-english Documented Code

```

287 \NeedsTeXFormat{LaTeX2e}
288 \ProvidesPackage{mfirstuc-english}[2016/07/29 v2.03 (NLCT)]

```

Load mfirstuc if not already loaded:

```
289 \RequirePackage{mffirstuc}
```

Add no-cap words. This list isn't complete. I don't intend adding disputed words. Additional words can be added to the document in a similar manner.

```
290 \MFUnocap{a}
291 \MFUnocap{an}
292 \MFUnocap{and}
293 \MFUnocap{but}
294 \MFUnocap{for}
295 \MFUnocap{in}
296 \MFUnocap{of}
297 \MFUnocap{or}
298 \MFUnocap{no}
299 \MFUnocap{nor}
300 \MFUnocap{so}
301 \MFUnocap{some}
302 \MFUnocap{the}
303 \MFUnocap{with}
304 \MFUnocap{yet}
```

Change History

?? (??)	2.0 (2015/09/09)
\@gls@split: added check for datatool-base UTF-8 support	3
\@mfp@applytofirst: new	4
\@MFPapplytofirst: new	4
1.03 (2008/12/22)	2.01 (2015-12-08)
\@makefirststuc: changed \protect@edef to \def	2
1.05 (2011/04/02)	2.02 (2015-12-17)
\@glsmakefirststuc: new	5
1.06 (2012/05/21)	2.03 (2016-07-29)
General: now requires etoolbox	1
\@capitalisewords: new	5
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1.08 (2013-11-04)	
\@capitalisewords: made robust	5
\@makefirststuc: made robust	2
1.09 (2017-07-30)	
\@mfp@nocaplist: new	7
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\@gMFUnocap: new	7
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1.10 (2015/05/03)	
\@ecapitalisewords: new	7
\@emakefirststuc: new	5
	\@makefirststuc: added check for two control sequences
	General: package split from glossaries
	\@makefirststuc: added check for \protect
	\@mfp@checkword: modified to use loop instead of \ifinlist
	\@mfp@checkword@do: new
	\@ccap@nofmtphrase: new
	\@ccapfmtphrase: new
	\@ccapfmtsubphrase: new
	\@ccapnofmtphrase: new
	\@MFU@p@makefirststuc: changed test
	\@MFU@protect: new
	\@MFUcapword: new
	\@capitalise@fmtwords: new
	\@capitalisefmtwords: new
	\@mfp@mid@capitalisewords: new
	\@capitalisefmtwords: new
	\@ecapitalisefmtwords: new
	\@ifMFUhyphen: new
	\@MFUcapword: new
	\@xcapitalisefmtwords: new

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